



# Appointment Analyzer© An Update

Rapid, Flexible Analysis Tools for Medical  
Treatment Data

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**BBN TECHNOLOGIES**



# Agenda



- ◆ Overview
- ◆ MTF Level Report
- ◆ Directorate Level Report
- ◆ Clinic Level Report
- ◆ Demonstration



- ◆ Calculates various Measures of Performance
  - Monthly
  - Year to Date
- ◆ Identifies potential problem areas
  - Personnel Training
  - Scheduling Templates
  - Booking Appointments
- ◆ Provides detailed analysis appropriate to three different levels:
  - MTF Command
  - Directorate
  - Clinic

# Overview of Capabilities



- ◆ Analyzes Data from Standard Adhoc Queries
  - Appointment Data Year to Date (50,000 records per month)
  - No Show/Cancellation Report
  - Clinic/Provider Schedules
  - Multiple Appointments Year to Date
- ◆ Rapid Extraction of Data
  - ~ 9 min for 12 months of data for 200 clinics
  - ~ 100,000 records per minute
- ◆ Presents Results in Excel© Readable Files
- ◆ Automatic Preparation of Presentation Charts and Tables
  - ~ 10 minutes for preparation of MTF Report (over 50 charts & tables)
  - < 1 minutes for preparation of each Clinic Report
  - User Selectable automatic printing



- ◆ Appointment Grouping/Renaming
  - Translates reported appointment types to required types
- ◆ Clinic Grouping and Display Names
- ◆ Performance Goals by Appointment Type
- ◆ Define Goals (e.g. # of days)
- ◆ Define Access to Care Values (ACVs)
- ◆ Specify ACVs included in Charts, Tables, & Reports
- ◆ Define Stop Light Thresholds
- ◆ Special Reports
- ◆ Report Titles
- ◆ Directorates & Clinics



## ◆ Clinic Performance Charts & Tables

- Grouped by Primary, Specialty, Ambulatory, and Dental
- Month and Year-to-Date
- Clinic Rankings vs User Defined Thresholds

## ◆ MTF Wide Reports

- OLA Report (Active Duty/Prime Appointments by Access Standards)  
Medicare Subvention/FEHBP Report
- Appointment Summary by ACVs (Pt. Categories) and Clinic
- High Interest ACV Report (e.g. FEHBP, Medicare)
- Age 65 Report
- Provider Made Bookings

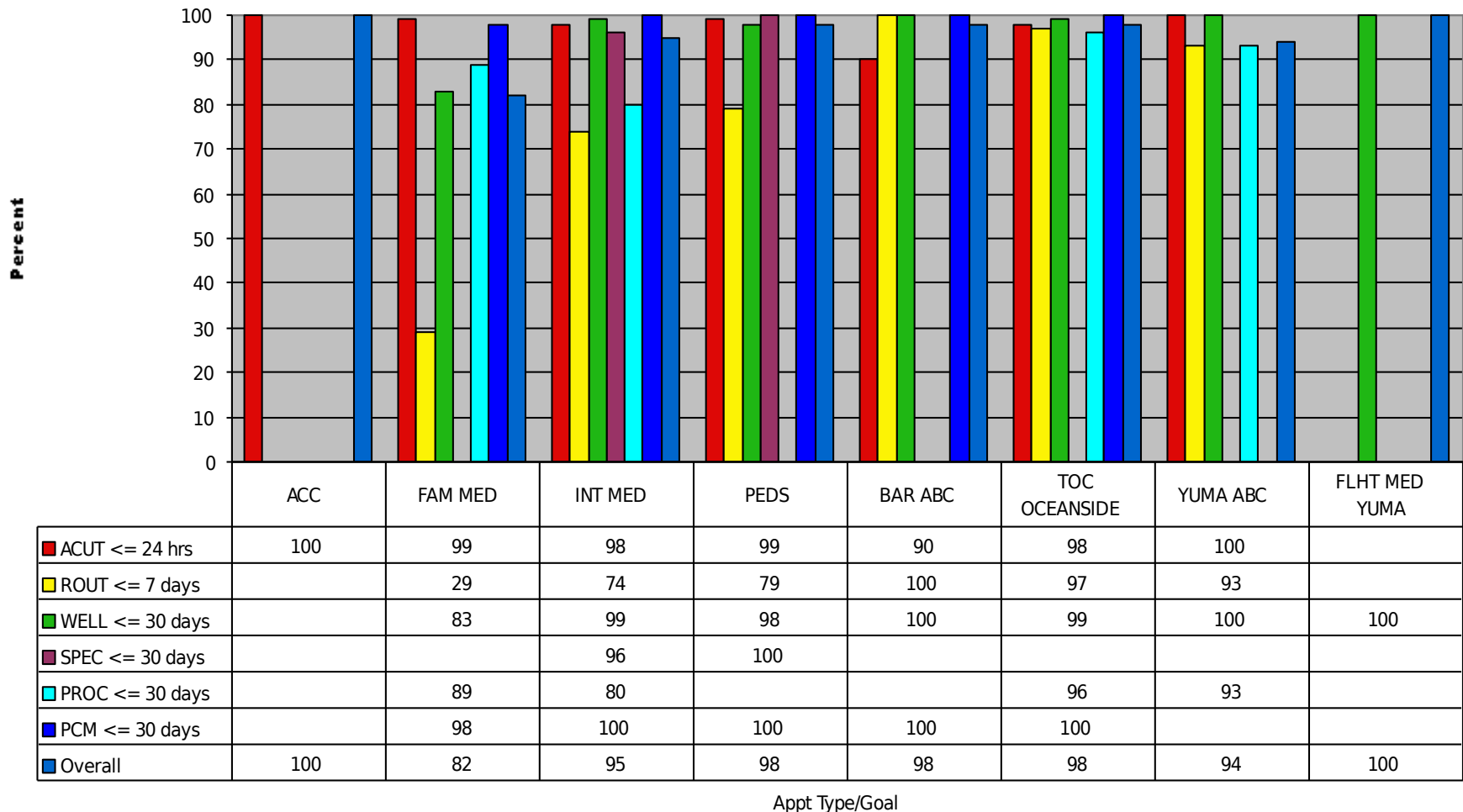
## ◆ Log & Audit Files for troubleshooting

- Clinics reported
- Clinics not-reported - not included in user's Groupings.xls
- Errors and validation information
- count of Appts by month & Total by Clinic

# MTF Report: Access Compliance Chart



ACCESS COMPLIANCE PER NAVAL HOSPITAL CAMP PENDLETON (ACTIVE DUTY/PRIME BENEFICIARIES)  
JUNE - MET STANDARDS



# MTF Report: Access Compliance Table



## ◆ User Defined

- Thresholds, Display Names, ACVs Charted, Goals, Titles...

RED BELOW

75

YELLOW BELOW

90

SUMMARY TABLE ACCESS COMPLIANCE PER NAVAL HOSPITAL  
CAMP PENDLETON (ACTIVE DUTY/PRIME BENEFICIARIES) JUNE -  
MET STANDARDS

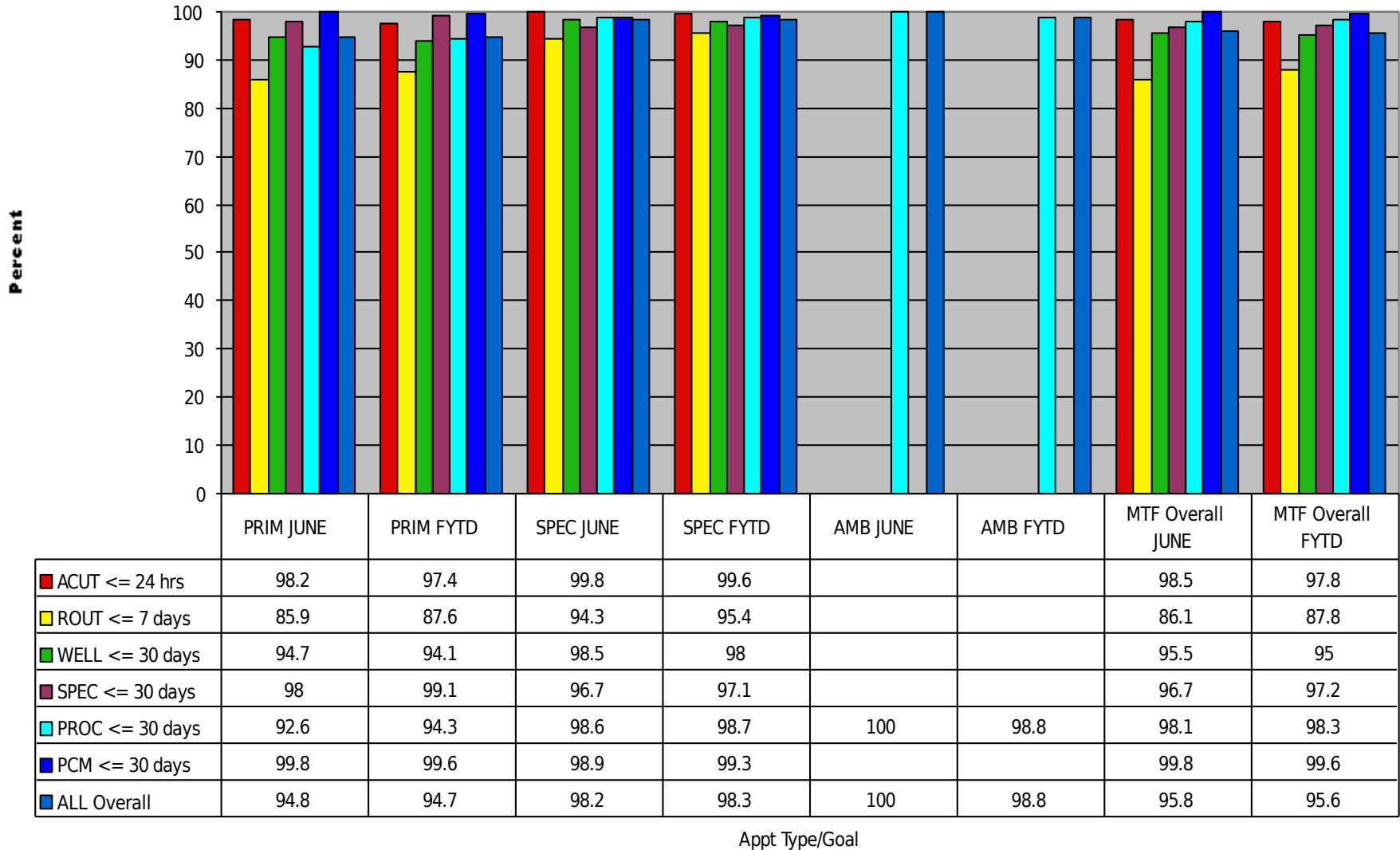
	ACUT		ROUT		WELL		SPEC		PROC		PCM		ALL
	<= 24 hrs		<= 7 days		<= 30 days		<= 30 days		<= 30 days		<= 30 days		
	ACTIVE DUTY	PRIME	ACTIVE DUTY	PRIME	ACTIVE DUTY	PRIME	ACTIVE DUTY	PRIME	ACTIVE DUTY	PRIME	ACTIVE DUTY	PRIME	Ave
ACC	100	100											99.8
FAM MED	100	99	50	28	90	82			90	89	100	98	82.4
INT MED	100	97	100	73	100	99	100	92	100	67	100	100	94.5
PEDS		99		79		98		100				100	98
BAR ABC	100	89	100	100	100	100					100	100	98.1
TOC OCEANSIDE		98	100	97	100	99				96		100	98.4
YUMA ABC	100	100	97	90	100	100			88	100			94.4
FLHT MED YUMA					100	100							100



# MTF Report: Overall Performance



## Overall Performance

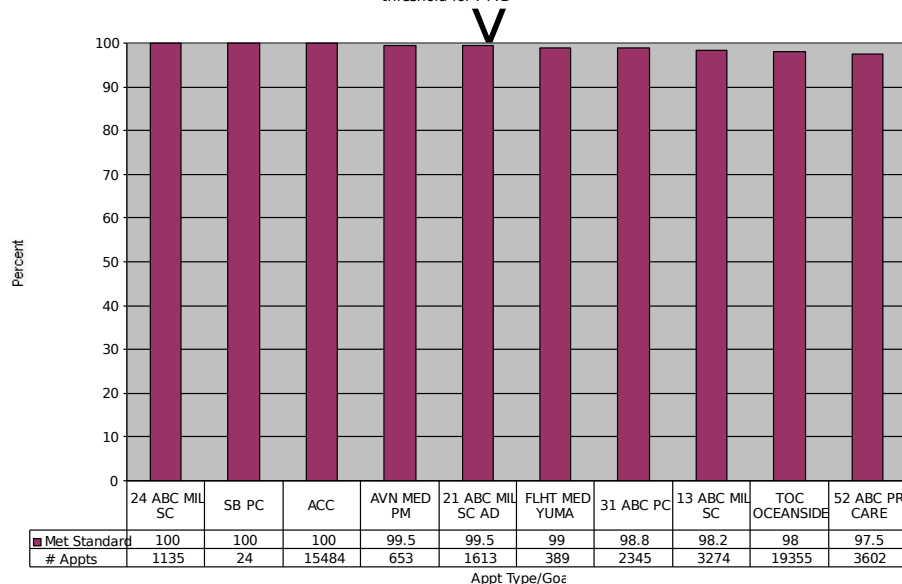


# MTF Report: Comparisons



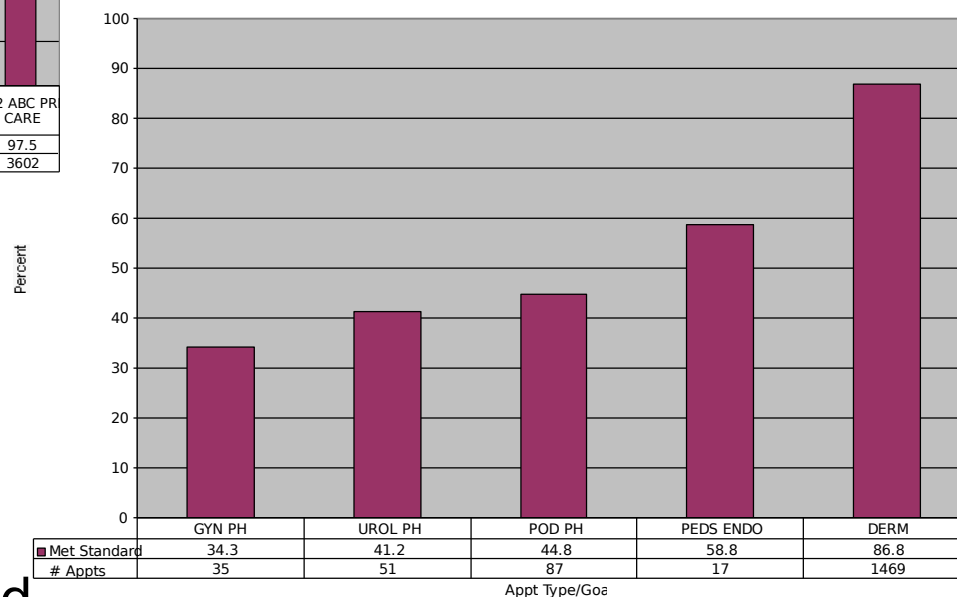
## Month

NAVAL HOSPITAL CAMP PENDLETON Easiest Access PRIMARY Clinics meeting 90% threshold for FYTD



## FYTD

NAVAL HOSPITAL CAMP PENDLETON SPECIALTY Clinics not meeting 90% threshold for FYTD



Clinics Meeting 90% Threshold  
Clinics NOT Meeting 90% Threshold



- ◆ Clinic Performance Charts & Tables
  - Grouped by Primary, Specialty, Ambulatory, and Dental
- ◆ Clinic Rankings vs User Defined Thresholds
- ◆ Individual Reports for Each Clinic
- ◆ Composite Reports
  - Analysis for FAM MED Composite Clinic includes the following 6 clinics:
    - CP FAMILY PRACTICE
    - CP FPC TEAM 1
    - CP FPC TEAM 2
    - CP FPC TEAM 3
    - CP FPC TEAM 4
    - CP FPC TEAM 5



- ◆ Age 65+ Report
- ◆ Appointments with Possible Errors & High Interest ACVs (e.g. STANDARD, MEDICARE)
- ◆ Types Appointment Reported & Conversion
- ◆ Types of Patients Seen (ACVs Reported)
- ◆ Non-Compliant Appointments (Booked Outside Access Standards & Misbooked per Chief Complaint)
- ◆ Count & % Appts with No Deers & Non-Eligible/Non-Enrolled/Medicare ACV
- ◆ Clerk Performance Overall and by Appt Type
- ◆ Provider Workload Overall and by Appt Type



- ◆ Appointment Analysis
  - Count by ACV Categories & Access Goal
    - Includes Mean Days to Access & Standard Deviation
  - Percentage by ACV Categories & Access Goal
  - Overall Percentage Appointment Types vs Access Goal
  - Percent of ACVs (Active Duty/Prime) that Met Goal
- ◆ Days To Be Seen (by Month & Appt Type)
- ◆ YTD Performance Chart by Appointment Type
  - ACTIVE/PRIME
  - ALL CLIENTS
- ◆ YTD Clinic Workload by Appointment Type
  - ACTIVE/PRIME
  - ALL CLIENTS



- ◆ Schedule Template Analysis (Booked/Future Pending)
- ◆ Appointment Status Report
  - E.g. Kept, Cancelled, No Show, Tel-Con
  - Day of Week
  - Weekly Averages
- ◆ Frequent Flyer List
  - More than 3 Appointments Cancelled or No Show in past year



Patient	Cat and SSN	Appt Date	ACV	Status	Gender	Age
		01 Jun 2000@1030	N-ELG/MEDI/N-ENR	KEPT	M	75
		08 Jun 2000@0925	N-ELG/MEDI/N-ENR	KEPT	M	74
		08 Jun 2000@0825	N-ELG/MEDI/N-ENR	KEPT	F	67
		12 Jun 2000@1420	N-ELG/MEDI/N-ENR	KEPT	F	66

Included in the clinic reports as well as in a Consolidated report for the MTF

# CR: Possible Errors Booking Appts



ERROR?	Appt Type	Booked	Seen	Time	A C V	Reason
STANDARD	ACUTE	6/30/00	6/30/00	940	C	UNRESOLVED CRYING X 2 D
NO DEERS CH	ACUTE	6/22/00	6/22/00	1050	X	CONSTIPATION
STANDARD	ACUTE	6/19/00	6/19/00	1320	C	CONGESTION, SNEEZING, SPITTING UP (OK PER TOM)
OTHER	BRIEF	6/5/00	6/5/00	1610	N	opthamology consult/black

Patient, Provider, and Clerk information is included in report in order to assist in identifying appointment





- ◆ Types of Appointments Booked
  - Translation
- ◆ Types of Patients Seen (ACVs)

Appts Reported ACUTE:ACUT, BRIEF:Other, DTAIL:Other, HMNT:WELL, NEW:Other, NPRB:ROUT,  
ACVs PROC:PROC  
Reported N, C, X, A, E

## CP FPC TEAM 1Performance for JUNE grouped under FAM MED

### Appointment Count by Month

OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	TOTAL YTD
794	689	665	588	641	814	666	890	802	6549

# CR: Non Compliant Appointments



## NON COMPLIANT APPOINTMENTS

Appt Group	Appt Rptd	Reason	ACV	Dys	Goal	Booked	Seen	Time
ROUT	NPRB	4MO CHK	STANDARD	19	<= 7 days	6/7/00	6/26/00	840
ROUT	NPRB	6 WEEKS WB	STANDARD	21	<= 7 days	6/9/00	6/30/00	1025
ROUT	NPRB	6WK CK	PRIME	30	<= 7 days	5/16/00	6/15/00	1345

Patient, Provider, and Clerk information is included in report in order to assist in identifying appointment

# CR: Breakdown of Types of Patients Seen



**ACV = Alternate Care Value**

**NON-ELIG includes NON-ELIG, MEDICARE, and NON-EN**

## Appointment Count by ACV including NO DEERS & NON-ELIG

	A (ACTIV DUTY)	E (PRIME	C (STAND ARD)	D (NMCSI MEDICA RE)	I (FEHBF )	N (N- ELG/ME DI/N- ENR)	S (CHCBF )	U (USTF)	X (NO- ACV)	Z (UNKN WN)
Appt Cou	397	4890	221	0	0	1024	0	4	13	0
NO DEER	8	33	42	0	0	557	0	0	13	0
NON-ELIG	0	0	0	0	0	467	0	0	0	0
NO DEERS CHECK and NON-ELIGIBLE Percentage										
Category #	Appts	Total A	Percent							
NO DEERS	653	802	81							
NON-ELIG	467	802	58							

Included in the clinic reports as well as in a Consolidated report for the MTF

# CR: Analysis of Clerk Performance



## Analysis of Clerk Performance

Clerk		% metgoal	metgoal	booked	% NULL ACV	# NULL ACV	% NO DEERS	# NO DEERS	% NON- ELIG	# NON- ELIG
	<b>Overall</b>	<b>94</b>	<b>94</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
	<b>ACUT</b>	<b>100</b>	<b>26</b>	<b>&lt;= 24 hrs</b>						
	<b>ROUT</b>	<b>17</b>	<b>6</b>	<b>&lt;= 7 days</b>						
	<b>WELL</b>	<b>94</b>	<b>18</b>	<b>&lt;= 30 days</b>						
	<b>Other</b>	<b>100</b>	<b>50</b>	<b>&lt;= 30 days</b>						

# CR: Analysis of Provider Workload



## Analysis of Provider Workload

Provider		% metgoal	metgoal booked	Average Days
	<b>Overall</b>	<b>92.4</b>	<b>61</b>	<b>66</b>
	<b>ACUT</b>	<b>100</b>	<b>16</b>	<b>&lt;= 24 hrs</b>
	<b>ROUT</b>	<b>44</b>	<b>9</b>	<b>&lt;= 7 days</b>
	<b>WELL</b>	<b>100</b>	<b>22</b>	<b>&lt;= 30 days</b>
	<b>Other</b>	<b>100</b>	<b>19</b>	<b>&lt;= 30 days</b>

# CR: Statistical Evaluation by ACV



**Count of Appointment Types by ACV Category vs Access Goals**

Appt Type	A ≤ 24 hrs	A ≤ 7 days	A ≤ 30 days	A > 30 days	Mean	StD	Total Appts
ACUT	40				0.1	0.2	40
ROUT	1	1	1		5	4.4	3
WELL	2	1	7	1	15.6	10	11
PROC	1		1		14	0	2
Other	12	6	6	1	7.2	10	25
Summary	56	8	15	2	4.9	9	81

**Percentage of Appointment Types by ACV Category vs Access Goals**

Appt Type	A ≤ 24 hrs	A ≤ 7 days	A ≤ 30 days	A > 30 days	Met Goal
ACUT	100	0	0	0	100
ROUT	33	33	33	0	66.7
WELL	18	9	64	9	90.9
PROC	50	0	50	0	100
Other	48	24	24	4	96

# CR: Clinic Year-to-Date Performance



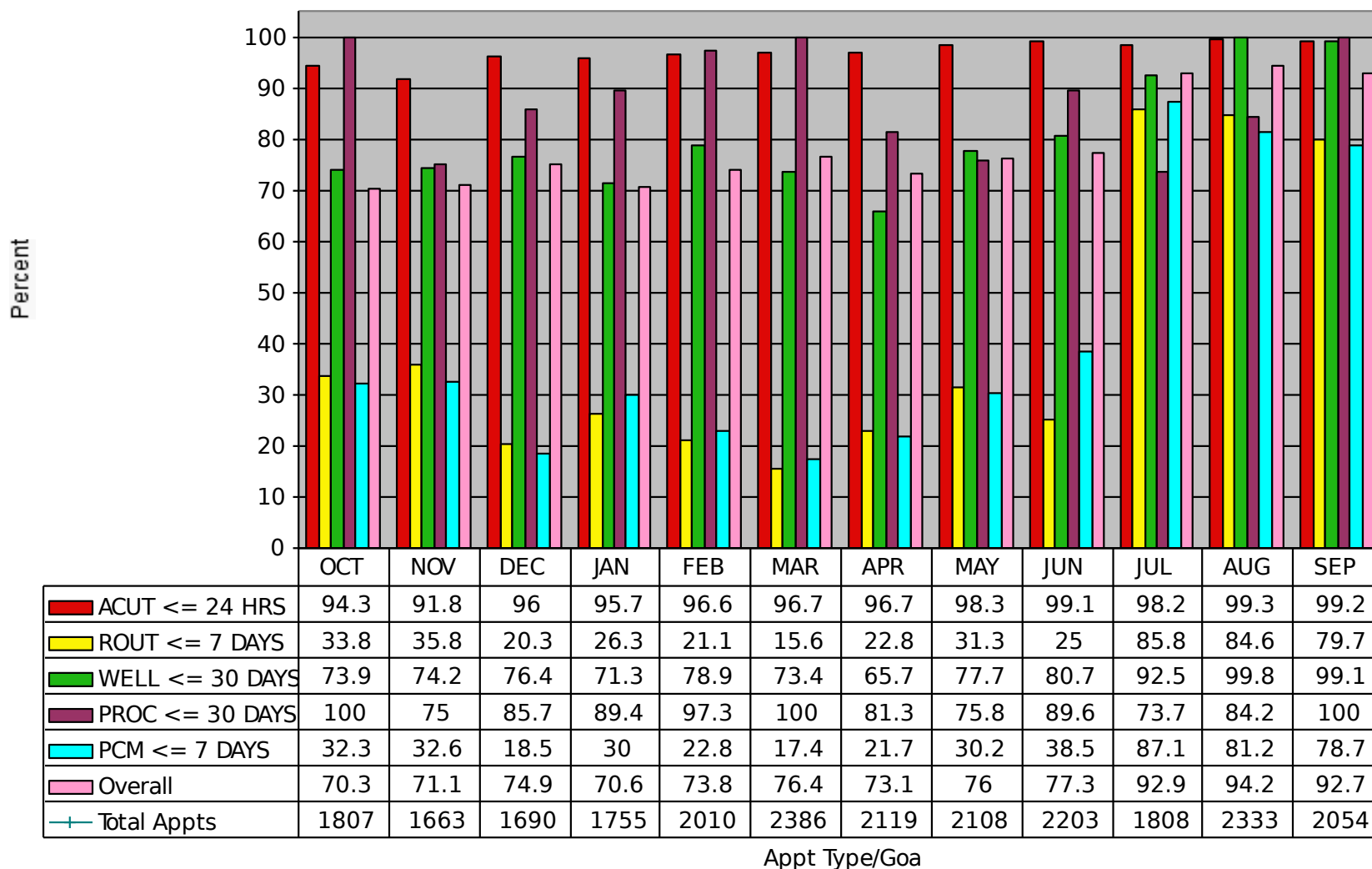
## Clinic Performance YTD for ACTIVE DUTY and PRIME Patient Categories

	<b>ACUT</b>	<b>ROUT</b>	<b>WELL</b>	<b>PROC</b>	<b>Overall</b>	<b>Total Appts</b>
	<b>&lt;= 24 hrs</b>	<b>&lt;= 7 days</b>	<b>&lt;= 30 days</b>	<b>&lt;= 30 days</b>		
<b>Oct</b>	<b>97.9</b>	<b>25</b>	<b>73.8</b>	<b>100</b>	<b>72.1</b>	<b>384</b>
<b>Nov</b>	<b>97.9</b>	<b>44</b>	<b>81.1</b>	<b>0</b>	<b>78.7</b>	<b>343</b>
<b>Dec</b>	<b>97.2</b>	<b>21.3</b>	<b>82.8</b>	<b>100</b>	<b>82.1</b>	<b>324</b>
<b>Jan</b>	<b>97.1</b>	<b>20.6</b>	<b>82.5</b>	<b>100</b>	<b>73.6</b>	<b>295</b>
<b>Feb</b>	<b>96.9</b>	<b>13.6</b>	<b>93.7</b>	<b>100</b>	<b>80</b>	<b>345</b>
<b>Mar</b>	<b>98.4</b>	<b>10.3</b>	<b>80</b>	<b>100</b>	<b>78.2</b>	<b>472</b>
<b>Apr</b>	<b>98.1</b>	<b>15.6</b>	<b>78.4</b>	<b>50</b>	<b>78.8</b>	<b>392</b>
<b>May</b>	<b>99.1</b>	<b>37.2</b>	<b>88.7</b>	<b>42.9</b>	<b>80.7</b>	<b>486</b>
<b>Jun</b>	<b>99.5</b>	<b>40.2</b>	<b>85</b>	<b>100</b>	<b>82.9</b>	<b>457</b>

# CR: Clinic Performance YTD



Clinic Performance YTD for ACTIVE DUTY/PRIME Patient Categories

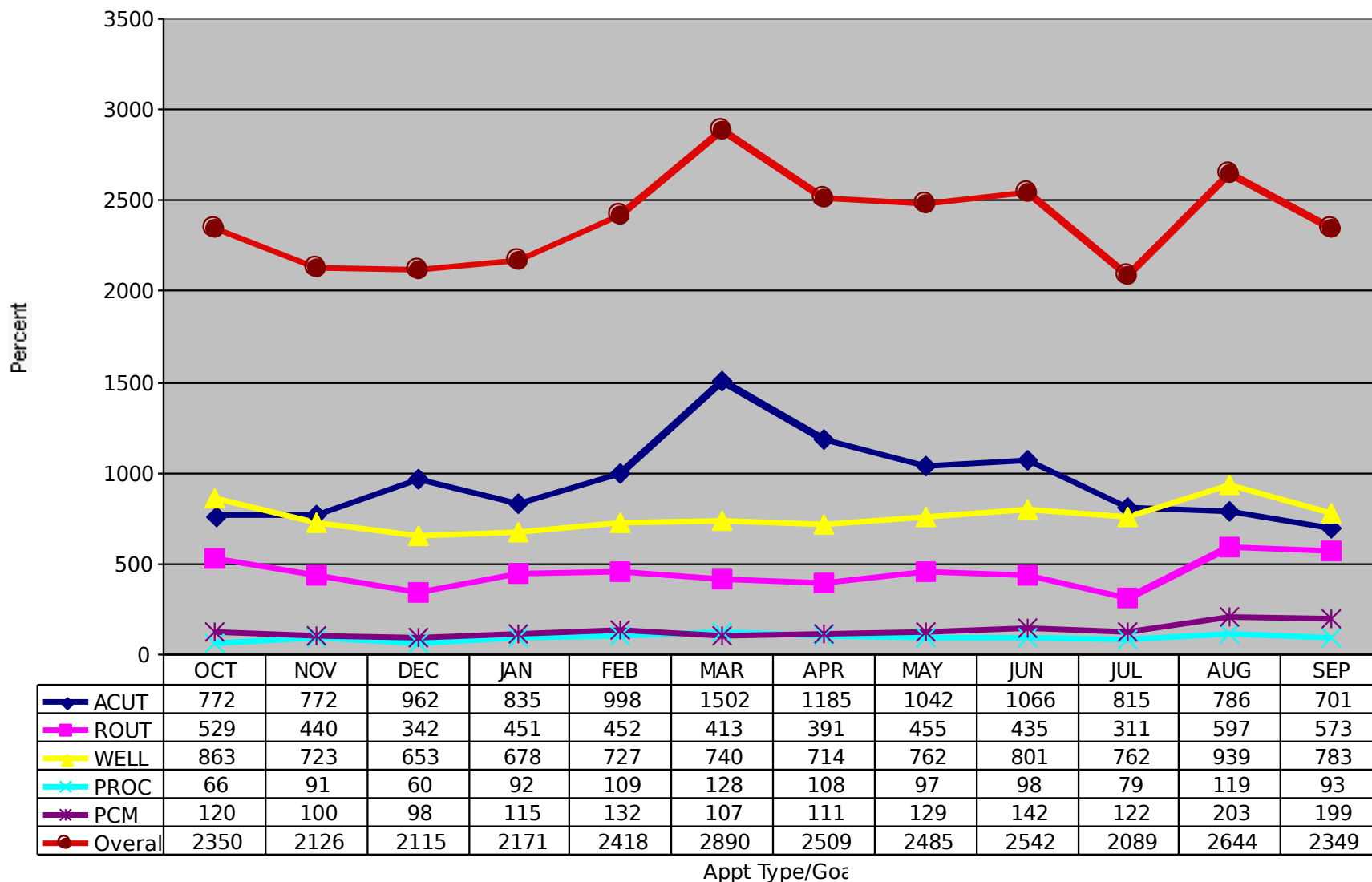




# CR: Clinic Workload YTD



Clinic Appointment Count YTD for ALL Patient Categories



# CR: Appointment Types vs Access Goals



## Overall Percent of Appointment Types vs Access Goals

Appt Type	<= 24 hrs	<= 7 days	<= 30 days	> 30 days	Met Goal	Appts	Goal
ACUT	100	0	0	0	100	226	<= 24 hrs
ROUT	13	27	56	4	40	98	<= 7 days
WELL	8	9	68	15	85	183	<= 30 days
PROC	11	11	78	0	100	9	<= 30 days
Other	21	24	47	8	92	286	<= 30 days

## Percent of ACVS (ACTIVE DUTY/PRIME) with required access goals that

	<= 24 hrs	<= 7 days	<= 30 days	> 30 days	Met Goal	Appts	Goal
ACUT	99	1	0	0	99	195	<= 24 hrs
ROUT	14	26	56	3	40	87	<= 7 days
WELL	9	10	66	15	85	167	<= 30 days
PROC	12	12	75	0	100	8	<= 30 days
Other	21	26	45	7	93	233	<= 30 days

# CR: Schedule Template Analysis



Schedule Template Anal									
	Mean	+2 STD	# Appts	Mean	+2 STD	# Appts	Mean	+2 STD	# Appt
	SUN	39.0 Weeks		MON	34.0 Weeks		TUE	39.0 Weeks	
Appts per Day of Week ACTIVE DUTY/PRIME Clients									
ACUT	0	0	0	14.3	14.3	486	6.3	6.3	247
ROUT	0	0	0	3.4	3.4	117	4.6	4.6	178
WELL	0	0	0	5.3	5.3	179	7.4	7.4	288
PROC	0	0	0	0.4	0.4	12	0.4	0.4	16
Other	0	0	0	10.4	10.4	353	11.6	11.6	452
Appts per Day of Week Other Clients									
ACUT	0	0	0	2.4	2.4	81	0.9	0.9	36
ROUT	0	0	0	0.7	0.7	23	1.2	1.2	45
WELL	0	0	0	1.2	1.2	42	1.4	1.4	54
PROC	0	0	0	0.1	0.1	2	0.1	0.1	2
Other	0	0	0	2.9	2.9	99	3.8	3.8	147
Appts per Day of Week ALL Clients									
ACUT	0	0	0	16.7	16.7	567	7.3	7.3	283
ROUT	0	0	0	4.1	4.1	140	5.7	5.7	223
WELL	0	0	0	6.5	6.5	221	8.8	8.8	342
PROC	0	0	0	0.4	0.4	14	0.5	0.5	18
Other	0	0	0	13.3	13.3	452	15.4	15.4	599

# CR: Appointments per Week and Day of Week



## Appts per Week ALL Clients By Appointment Ty

	Mean	+2 STD	# Appts
<b>ACUT</b>	<b>48.2</b>	<b>48.2</b>	<b>1881</b>
<b>ROUT</b>	<b>22.4</b>	<b>22.4</b>	<b>873</b>
<b>WELL</b>	<b>35.5</b>	<b>35.5</b>	<b>1383</b>
<b>PROC</b>	<b>1.4</b>	<b>1.4</b>	<b>53</b>
<b>Other</b>	<b>60.5</b>	<b>60.5</b>	<b>2359</b>

## Appts per Day ALL Clients ALL Appointments

<b>MON</b>	<b>41</b>	<b>41</b>	<b>1394</b>
<b>TUE</b>	<b>37.6</b>	<b>37.6</b>	<b>1465</b>
<b>WED</b>	<b>32.3</b>	<b>32.3</b>	<b>1258</b>
<b>THU</b>	<b>35.1</b>	<b>35.1</b>	<b>1264</b>
<b>FRI</b>	<b>31.5</b>	<b>31.5</b>	<b>1167</b>
<b>SAT</b>	<b>0</b>	<b>0</b>	<b>1</b>



## Days To Be Seen by Month & Appointment Type

		ACUT	ROUT	WELL	SPEC	PROC	PCM	Other	Ave
<b>OCTOBER</b>	<b>ACTIVE DUTY</b>	0.3	10.7	17		8.2	12.4	5.3	7.9
	<b>PRIME</b>	0.6	13	20.5		14.5	14.7	12.3	11.9
	<b>Overall</b>	0.6	12.8	20.3		13.7	14.5	11.9	11.6
<b>NOVEMBER</b>	<b>ACTIVE DUTY</b>	0.2	10.3	13.9		21.4	2	8.2	6.8
	<b>PRIME</b>	0.9	12.8	20.8		17.7	13.5	13.3	12
	<b>Overall</b>	0.8	12.7	20.4		18.1	13.1	13.1	11.7
<b>DECEMBER</b>	<b>ACTIVE DUTY</b>	0.4	12.2	15.1		16	11	7.8	5.7
	<b>PRIME</b>	0.4	15	20.9		16	15	13.2	11.2
	<b>Overall</b>	0.4	14.9	20.7		16	14.9	12.8	10.8

# CR: Overall Percent Meeting Access Goals



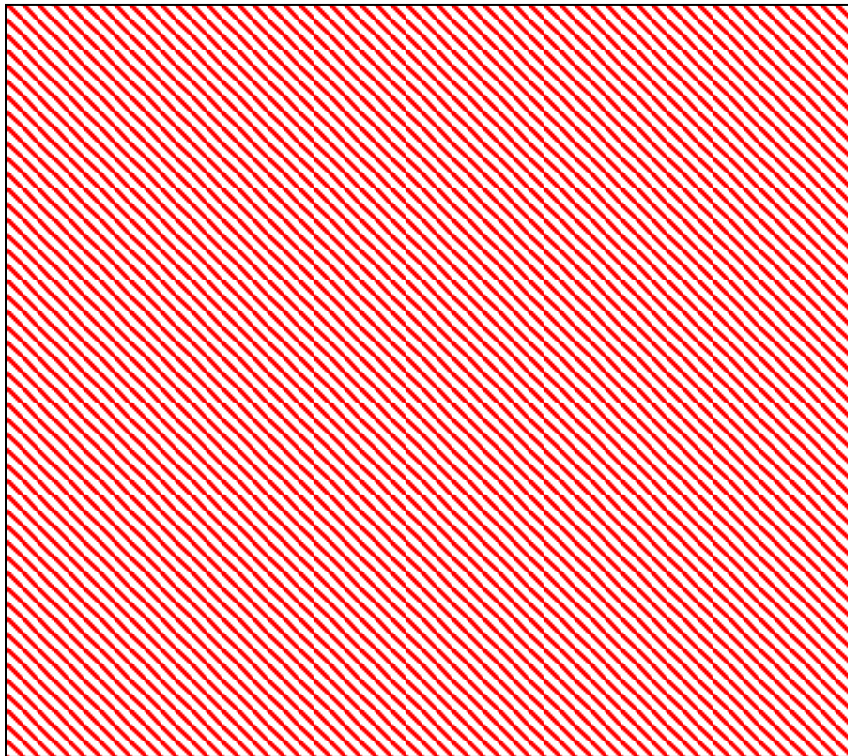
RED BELOW  
YELLOW BELOW



## Overall Percent of Appointment Type Access Goals

Appt Type	<= 24 HRS	<= 7 DAYS	<= 30 DAYS	> 30 days	Met Goal	Appts	Goal
ACUT	99	1	0	0	99	701	<= 24 HRS
ROUT	42	36	21	0	79	573	<= 7 DAYS
WELL	15	17	67	1	99	783	<= 30 DAYS
PROC	14	9	77	0	100	93	<= 30 DAYS
PCM	44	34	22	0	78	199	<= 7 DAYS
Other	22	25	52	1	100	1454	> 30 days

# CR: Frequent Flier Report





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